Does Patch Testing Improve Patients’ Quality of Life?

A recent report from researchers at the University of California—San Francisco suggests that the answer to this question is yes (Ramirez F, Chren M-M, Botto N. A review of the impact of patch testing on quality of life in allergic contact dermatitis. J Am Acad Dermatol 2017; 75(5):1000-1004). The finding may not be much of a surprise to clinicians who have witnessed the happy change in the lives of patients after patch testing has allowed the sensitizing agent(s) underlying their allergic contact dermatitis (ACD) to be identified and avoided. But it’s always good to have evidence that supports clinical experience. Indeed, outcomes after appropriate diagnosis and treatment of ACD can be dramatic—chronic pain and discomfort eliminated, careers saved, social isolation reversed. Big returns, both socially and personally, on a small investment.

The questionnaires administered to the patients in the three studies were the Short Form-36 (SF-36), the Skin-Specific Dermatology Life Quality Index (DLQI), and/or the Dermatology-Specific Quality of Life (DSQL) instrument. The SF-36 asks 36 generic questions intended to assess the dimensions of a patient’s well being related to physical and social functioning and limitations related to each. The DLQI asks 10 questions about aspects of a patient’s life such as symptoms and feelings, daily activities, personal relationships, and treatment. Its primary focus on daily functioning means that it less readily taps into issues related to emotional and mental health. The DSQL, which includes 52 questions, is intended to assess psychosocial status, activities, and symptoms. Although the DSQL is specific to dermatology and has been validated in patients with contact dermatitis, none of these 3 questionnaires is specific to patch testing or dermatitis.

Nonetheless, all three studies reviewed found improvements in patients’ self-reports about the quality of their life after patch testing. Woo et al. even found that the quality of life of patients with negative patch test results improved. They interpreted the finding to suggest that conversations with a clinician about skin care in general may have been of benefit or that patients were pleased that they no longer had to avoid products they may have stopped using.

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Since the late 1990s and early 2000s when the three reviewed studies were conducted, two new quality of life instruments specific to contact dermatitis have been developed. In 2010 the Contact Dermatitis-Specific Questionnaire was introduced followed by the Fragrance Quality of Life instrument (FQL) in 2014. To date, the former has been used in only one study and its validity and reliability have yet to be established. While the FQL was reported to be reliable and the results reproducible, its use is limited to patients with ACD caused by fragrances.

Given that dermatitis is the leading global skin disorder as measured by disability-adjusted life years (years lost to ill health, disability or early death), the importance of diagnosing and treating dermatitis patients correctly becomes clear. Patch testing is a necessary and crucial component of that strategy to ensure that patients receive the diagnosis that they deserve. Our mission is to help you do just that.

Suggested Readings


Woo PN, Hay IXC, Ormerod AD. An audit of the value of patch testing and its effect on quality of life. Contact Dermatitis 2003;48:244-247


Building a patient base through patient referrals has probably always been a marketing mainstay of clinicians (if, perhaps, not always recognized). In the March issue of this newsletter, you were introduced to the concept of the net promoter score and how it could be used to help ensure the success of your practice. This article focuses on the second marketing strategy, building your patient base. Based on a survey conducted at our 2017 Patch Test Workshop, only 13% of respondents reported having a referral network! Despite the limitations associated with such an informal survey, that low percentage suggests that patch testers have plenty of room to build their practices—and that’s good news!

Not surprisingly, a website is a crucial tactic in building your patient base. The results of a survey conducted at our 2017 Patch Test Workshop indicated that 57% of the respondents had a website—a majority—but, perhaps, a surprisingly modest majority in this digital age. So let’s explore exactly why your practice needs a website.

One of the most compelling reasons is that the information is available to potential patients 24 hours a day, 7 days a week, 365 days a year, and its available to almost 250 million people! In other words, a website offers you an unprecedented opportunity to share your vision for providing excellent patient care with your community and beyond. Data from the Pew Research Center’s Internet and American Life Project indicates that 77% of individuals looking for health-related information begin with an online search (Fig. 1). Among 18-29 year olds, the percentage is 5 points higher. Consequently, the risk of not having a website is high because if potential patients don’t find your website they will find the website of competitive dermatology or allergy clinics in your community. You can conduct a Google search yourself to find out how many other clinics in your area have a web presence. As an example, I conducted a Google search on the key words, “patch test doctors Los Angeles California.” In less than 1 second, more than a million hits were compiled! That’s a powerful tool to ignore.

As in the physical appearance of your clinic, you want your website to put your best digital foot forward and make a good impression on visitors. A clean, professional-looking website elevates the overall impression your clinic makes to the public. If you are new to the digital arena or unsure of how your website should be designed, spend some time reviewing websites of your competition—other practices—in the area to identify pages that work and pages that are less effective. Does the home page capture your attention? How well is a site organized? Do the pages load quickly? Is the site easy to navigate? Can you access the site as readily on a smart phone as on a computer or tablet? Is the content accurate and authoritative? In fact, even if you have a website, it is a good idea to review the competition’s websites periodically to evaluate whether your site needs an update or redesign.

Remember that websites are important to your existing patients too. Many will search the internet when your clinic is closed or when staff members are caring for patients and unable to answer a call. To put having a website in perspective, it’s the equivalent of having an employee working around the clock to answer questions! To meet those needs, make sure your website includes the following basic but critically important information: your clinic phone number, address and directions, list of services, office hours, and a contact form. Including your staff’s credentials and experience can help build the public’s confidence in your clinic. Providing additional resources and articles can further establish your practice as an authority in your field. However, resist the urge to overwhelm your visitors with too much content on any given page.

Admittedly, there are many intimidating technical aspects involved in creating a website such as choosing a platform and search engine optimization. Consultation with a professional may be a worthwhile investment. If that’s not an option, pre-designed templates that offer a variety of layouts and designs can be downloaded and used. You may need to start small, but if you haven’t already, start now and proceed thoughtfully to develop a web presence to help ensure the success of your patch test clinic. There are, of course, other ways to use the digital world to support your practice, ways that we will explore in the next issue of All Things Contact Dermatitis.

Figure 1. How consumers search for health information.

<table>
<thead>
<tr>
<th>Source: Pew Research Center’s Internet &amp; American Life Project</th>
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Teledermatology: A Viable Option for Patch Testing?

Teledermatology is the inevitable offshoot of rapid improvements in telecommunications and digital technologies. Dermatological conditions lend themselves to imaging. Consequently, the potential for teledermatology to improve the care of patients with skin disorders is considerable, especially given the overall shortage of dermatologists and the concomitant global burden of skin disease. But is teledermatology compatible with patch testing? Sometimes reading the results of a patch test in person in the office seems challenging enough. Is it a positive or an irritant reaction? Is it a mild 1+ reaction or doubtful? How detrimental to reading patch test results would the inability to palpate a reaction for induration be?

For the first time, the feasibility of using store-and-forward teledermatology to assess patch test results has been reported (Grey KR, Hagen SL, Hylwa SA, Warshaw EM. Utility of store and forward teledermatology for skin patch test readings. Dermatitis 2107: 28(2):152-161). In contrast to real-time interactive teledermatology, which requires clinicians and subjects to interact synchronously, store-and-forward systems transmit still images for assessment, which can be performed at a clinician’s convenience.

In the study 101 adults (70% female, mean age 50 years) were patch tested with the 70-allergen screening series of the North American Contact Dermatitis Group. One of two dermatologists experienced in patch testing read and scored the results in person at the time the patch test panels were removed (48 hours) and at the final reading (96-168 hours) while one of two other investigators took photographs (in a carefully controlled and standardized fashion that eliminated all identifying information) of the patch test sites at both visits. The same dermatologists who performed the in-person readings performed the store-and-forward assessments of the images from the same patients. To eliminate recall bias, the photographs from the 48-hr visit were graded at least 4 weeks later and those from the final reading were graded at least 8 weeks later.

Agreement between the teledermatology and in-person gradings of the skin reactions was calculated and categorized as success, indeterminate, or failure (Table). Of the 7070 possible pairs of comparisons (excluding negative/negative agreements, which included 6650 of the comparisons), 47% of the teledermatology readings at 48 hours and 54% of the final readings were successful. That is, patient counseling would have been conducted exactly the same based on either the in-person or teledermatology reading. The overall failure rate was 6%: of the 27 pairs, 7 were under-read and 20 were over-read. Most of the discordance involved mild (1+) and negative reactions although, surprisingly perhaps, there were also a few disagreements between strong positive (2+ or 3+) and negative reactions. Possible reasons underlying the failure to read the images correctly were misinterpretation of spread between two reactions, lighting, and lack of tactile feedback or patient-provided information such as the presence of itching.

Not unexpectedly the most problematic group reflected doubtful reactions, the interpretation of which may vary and be affected by a patient’s clinical history. Of the final readings, the clinical significance of 40% (167 pairs) was indeterminate. Compared to the in-person grade, 116 of these photographs were under-read and 51 were over-read. The authors suggested that the addition of a final determination of allergic or not allergic could help minimize indeterminate comparison points (e.g., a patient with a doubtful reaction to one formaldehyde-releasing allergen would likely be considered allergic if positive to multiple other formaldehyde releasers).

Overall, the results of this study were mixed. Although the majority of the comparisons were successful, the 54% rate is not overly robust. Whether the raters’ performance would improve with practice is unknown (albeit no significant differences between the two readers was found). Even with improvements in teledermatologic rating ability, limitations in patients’ ability to mark and remove patch test panels and to obtain high-quality photographs to send to their provider might negatively compensate for increased proficiency on the part of the teledermatologist clinician. Given that the readers were experienced patch testers, clinicians with less expertise would likely fare less well.

Although teledermatology for patch testing may not be ready for prime time, its potential should not be discounted. Continued technological improvements in visual clarity, perhaps combined with real-time interaction between patient and clinician, might overcome some of the limitations. Such scenarios become more feasible as mobile teledermatology (smartphones and tablets) expands. Despite a myriad of ethical, economic, legal, and clinical challenges to its implementation, teledermatology can help reach underserved populations and increase the efficiency of clinical practices. Furthermore, patients have reported satisfaction with teledermatology consultations and a willingness to pay for them. The volume of commercial telecommunication consultations in other aspects of dermatology continues to grow, and it would be surprising if this useful modality does not expand into the realm of patch testing as well.

![Table: Categories of agreement in readings between in-person visits and teledermatology images*](image)

<table>
<thead>
<tr>
<th>Category</th>
<th>Definitions</th>
<th>48-hr reading* No.(%)</th>
<th>Final reading* No.(%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Success Total</td>
<td>Exact match in terms of severity of positive reactions &amp; presence of doubtful or irritant reactions</td>
<td>310(44%)</td>
<td>180(42.9%)</td>
</tr>
<tr>
<td>Complete agreement</td>
<td>Positive reactions on both readings but severity differed</td>
<td>18(4)</td>
<td>43(10.2)</td>
</tr>
<tr>
<td>Partial agreement</td>
<td>Negative on one reading, irritant on the other</td>
<td>40(6.7)</td>
<td>3(0.7)</td>
</tr>
<tr>
<td>Indeterminate Total</td>
<td>Negative on one reading, positive on the other (regardless of severity)</td>
<td>362(51.3)</td>
<td>167(39.8)</td>
</tr>
<tr>
<td>Positive/irritant disagreement</td>
<td>Positive on one reading (regardless of severity) on the other</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Negative/irritant disagreement</td>
<td>Negative on one reading, doubtful on the other</td>
<td>317(45)</td>
<td>129(30.7)</td>
</tr>
<tr>
<td>Doubtful/irritant disagreement</td>
<td>Doubtful on one reading, irritant on the other</td>
<td>0</td>
<td>1(0.2)</td>
</tr>
<tr>
<td>Doubtful/positive disagreement</td>
<td>Doubtful on one reading, positive on the other (regardless of severity)</td>
<td>45(6.4)</td>
<td>37(8.9)</td>
</tr>
<tr>
<td>Failure</td>
<td>Negative on one reading, positive on the other (regardless of severity)</td>
<td>11(1.6)</td>
<td>27(6.4)</td>
</tr>
</tbody>
</table>

*Negative/negative agreement pairs excluded.
†Based on 705 comparisons.
‡Based on 420 comparisons

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